

AMENDMENTS

✓
Please amend the above-identified application, as follows:

In the Claims:

✓
Please cancel claims 32-40 without prejudice.

✓
Please add the following new claims:

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41. [New] An apparatus as recited in claim 1 wherein the x-ray source and the point of impingement upon the surface define an optic circle of radius R, and wherein the doubly-curved x-ray optic comprises a surface and a plurality of atomic planes of radius R_p which intersect the surface at an angle α ; and wherein the radius of the atomic planes R_p of the doubly-curved optic is defined by the equation $R_p = 2R \cos \alpha$.

25 42. [New] An apparatus as recited in claim ²⁴41, wherein the angle α is greater than 0° and less than 90°

24 43. [New] An apparatus as recited in claim ²⁵42, wherein the angle α is greater than 0° and less than 20° .

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44. [New] An apparatus as recited in claim 41, wherein the doubly-curved optic is curved to a toroidal, ellipsoidal, spherical, parabolic, or hyperbolic shape.

45. [New] An apparatus as recited in claim 41, wherein the doubly-curved optic exhibits asymmetric Bragg diffraction.

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46. [New] An apparatus as recited in claim 41, wherein the doubly-curved optic also focuses the x-rays on to the surface.

47. [New] An apparatus as in claim 46, wherein the doubly-curved optic focuses x-rays to a footprint on the surface and wherein the footprint comprises a largest dimension less than 1 mm.

48. [New] An apparatus as in claim 47, wherein the doubly-curved optic focuses x-rays to a footprint on the surface wherein the footprint comprises a largest dimension less than 500 microns.